FIG. 1

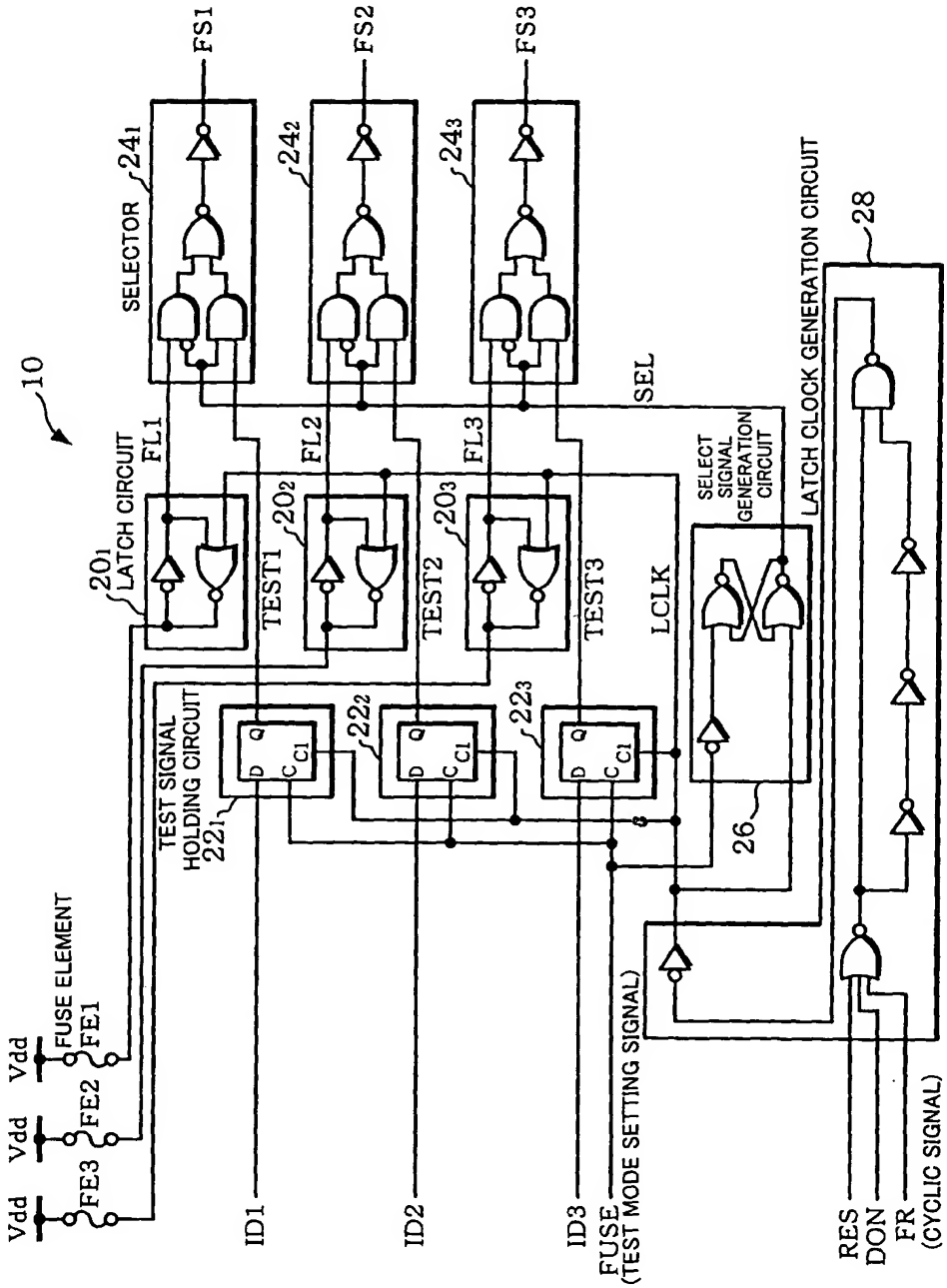

10
FS1
FS2
FS3
SELECTOR
241
242
243
SEL
LATCH CIRCUIT
201
FL1
FL2
FL3
TEST1
TEST2
TEST3
LCLK
202
203
SELECT SIGNAL GENERATION CIRCUIT
LATCH CLOCK GENERATION CIRCUIT
28
TEST SIGNAL HOLDING CIRCUIT
221
222
223
26
Vdd
FUSE ELEMENT
FE1
FE2
FE3
ID1
ID2
ID3
FUSE (TEST MODE SETTING SIGNAL)
RES
DON
FR (CYCLIC SIGNAL)

FIG. 2

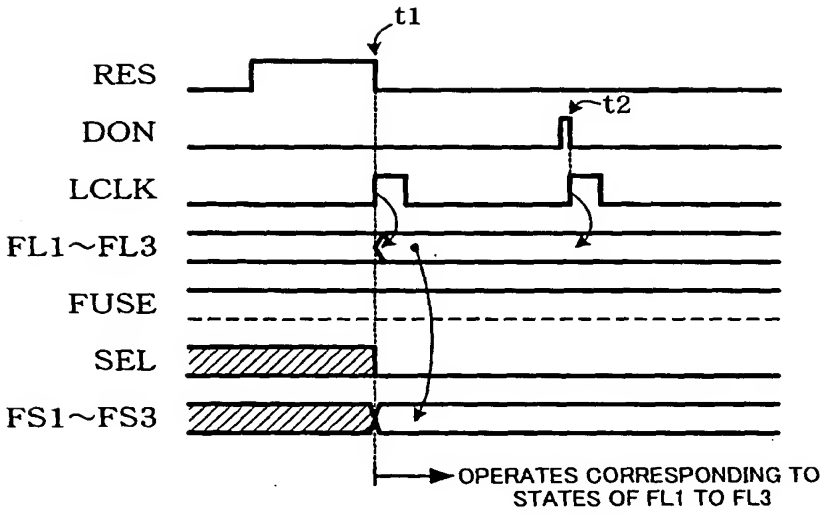

t1
t2
RES
DON
LCLK
FL1~FL3
FUSE
SEL
FS1~FS3
OPERATES CORRESPONDING TO STATES OF FL1 TO FL3

FIG. 3

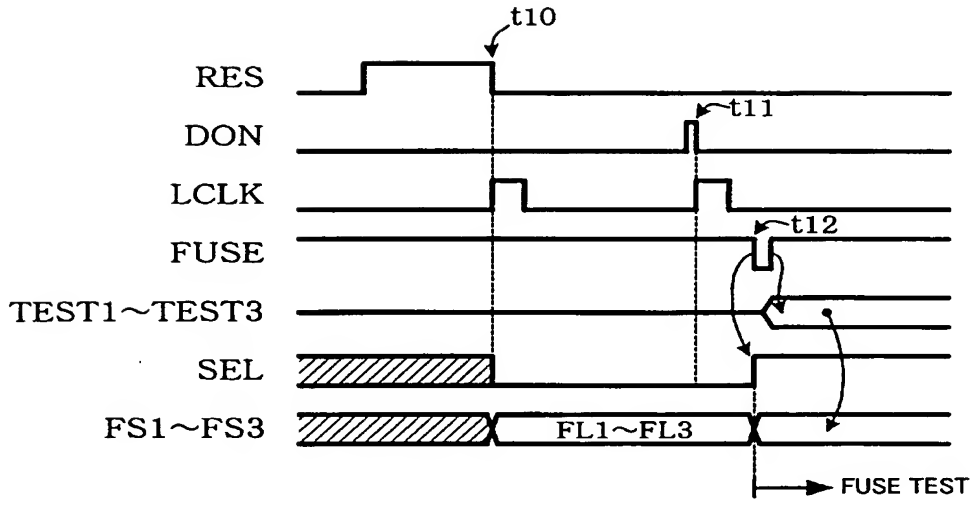

t10
RES
t11
DON
LCLK
t12
FUSE
TEST1~TEST3
SEL
FS1~FS3
FL1~FL3
FUSE TEST

FIG. 4A ABNORMAL OPERATION EXAMPLE

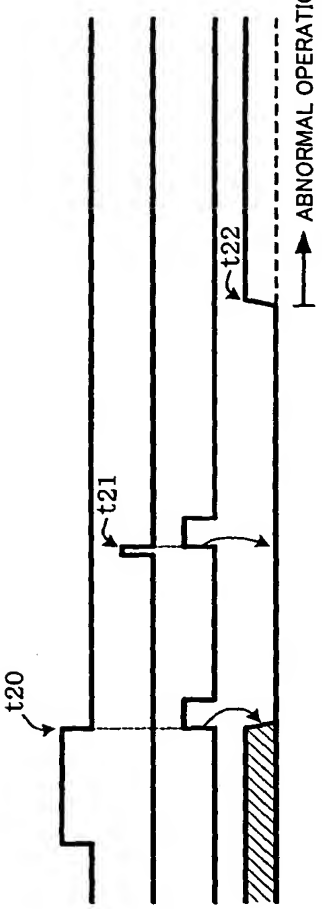


FIG. 4B NORMAL OPERATION RESTORATION EXAMPLE

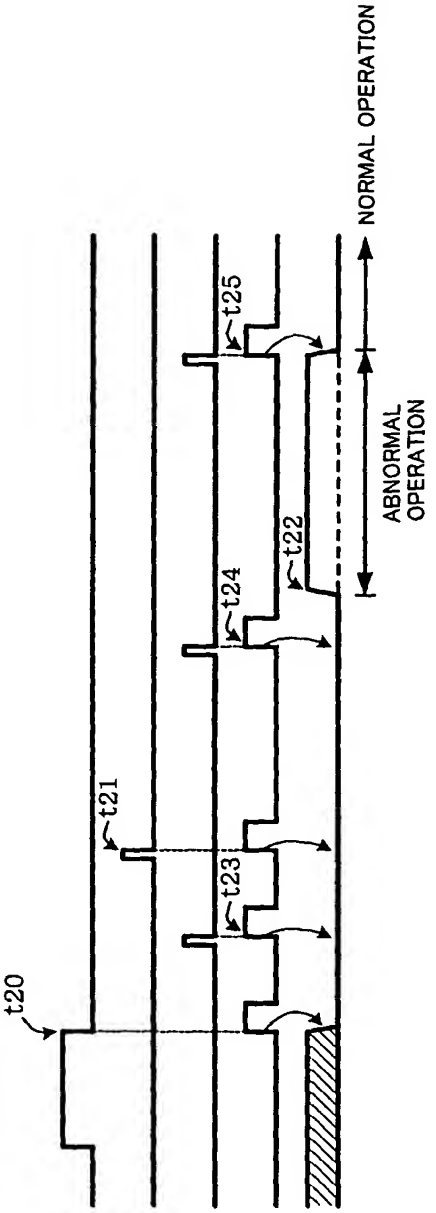


FIG. 5A ABNORMAL OPERATION EXAMPLE

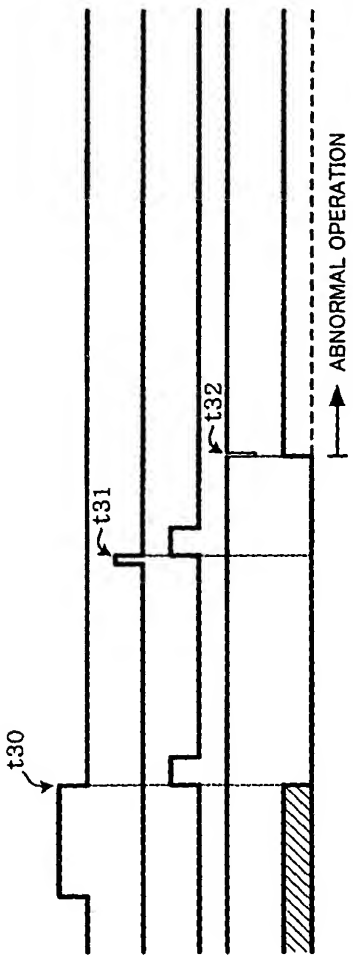
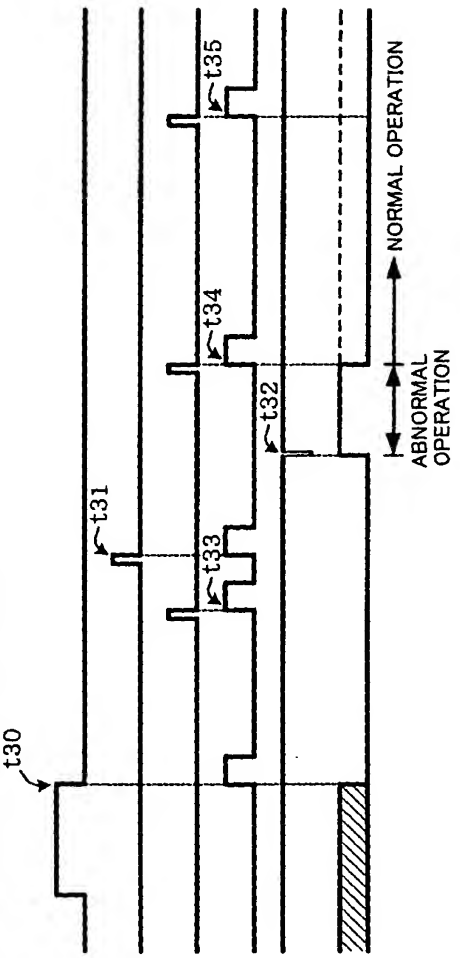


FIG. 5B NORMAL OPERATION RESTORATION EXAMPLE



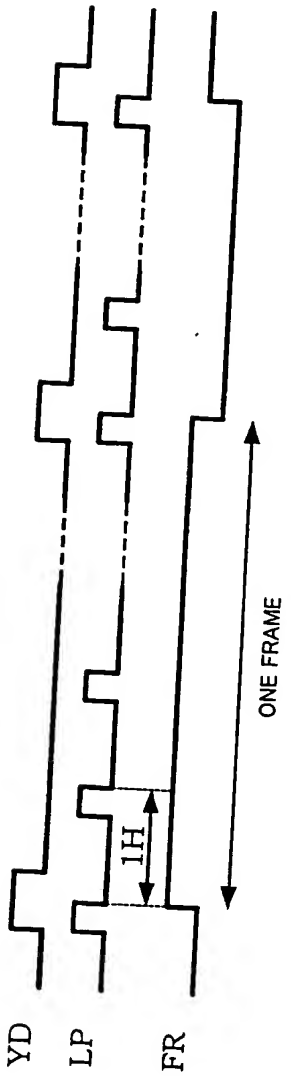


FIG. 6

FIG. 7

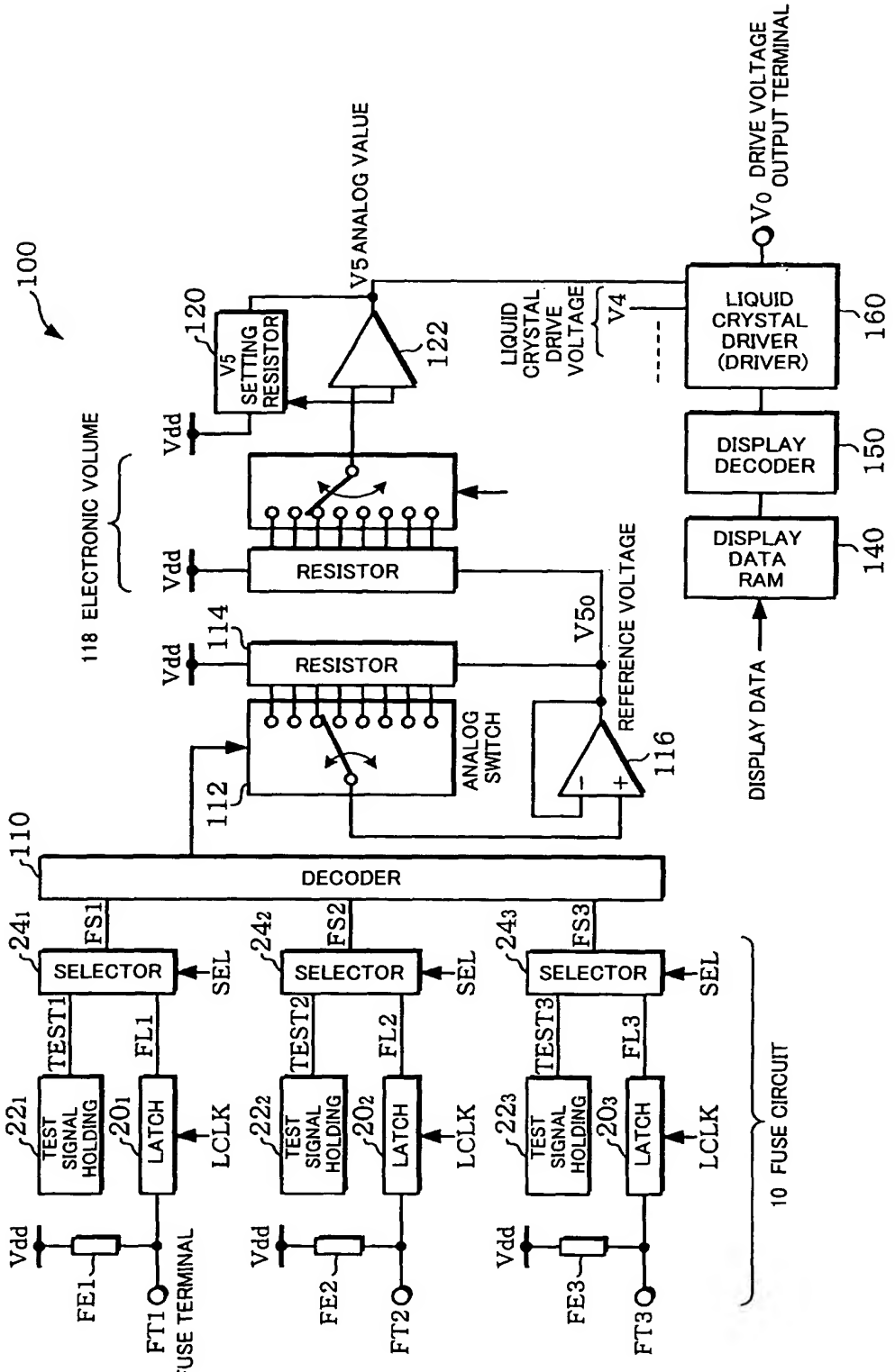

100
V5 ANALOG VALUE
120
V5 SETTING RESISTOR
122
LIQUID CRYSTAL DRIVE VOLTAGE
V4
V0 DRIVE VOLTAGE OUTPUT TERMINAL
LIQUID CRYSTAL DRIVER (DRIVER)
160
DISPLAY DECODER
150
DISPLAY DATA RAM
140
DISPLAY DATA
Vdd
118 ELECTRONIC VOLUME
RESISTOR
114
RESISTOR
V50
REFERENCE VOLTAGE
116
ANALOG SWITCH
112
110
DECODER
241
FS1
SELECTOR
SEL
TEST1
FL1
221
TEST SIGNAL HOLDING
201
LATCH
LCLK
FE1
FT1
FUSE TERMINAL
242
FS2
SELECTOR
SEL
TEST2
FL2
222
TEST SIGNAL HOLDING
202
LATCH
LCLK
FE2
FT2
243
FS3
SELECTOR
SEL
TEST3
FL3
223
TEST SIGNAL HOLDING
203
LATCH
LCLK
FE3
FT3
10 FUSE CIRCUIT

FIG. 8

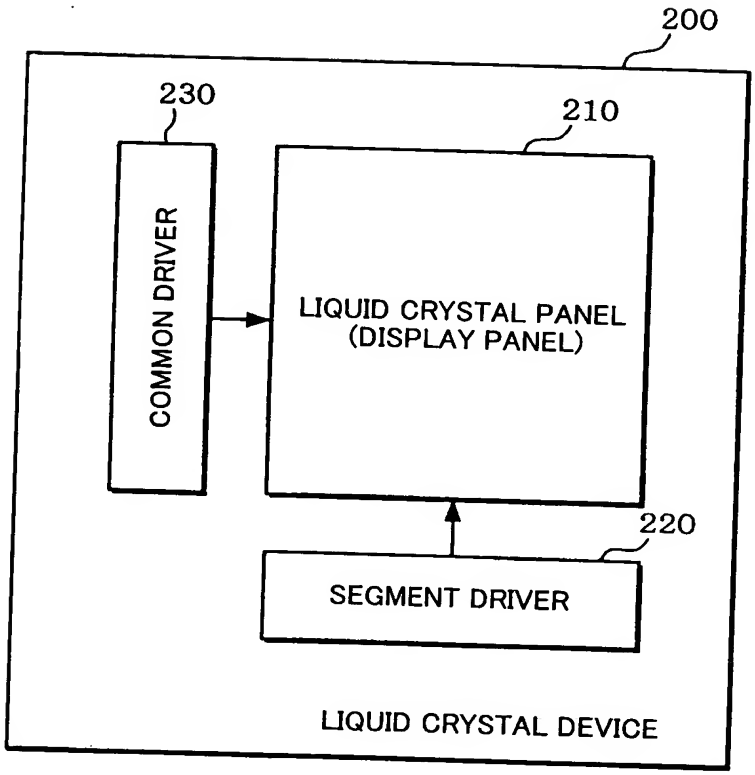
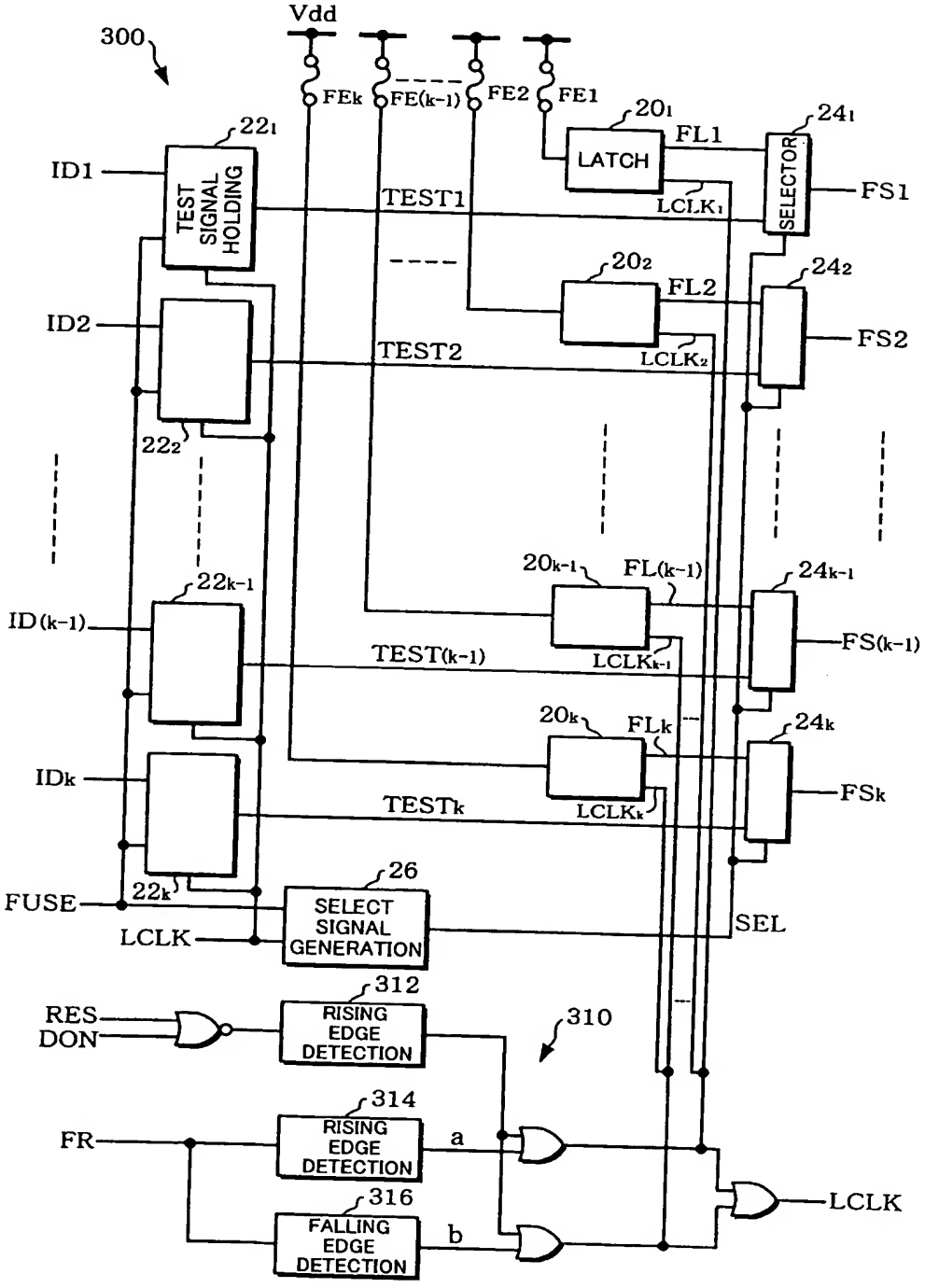

200
230
210
COMMON DRIVER
LIQUID CRYSTAL PANEL
(DISPLAY PANEL)
220
SEGMENT DRIVER
LIQUID CRYSTAL DEVICE

FIG. 9


300
Vdd
FEk
FE(k-1)
FE2
FE1
22₁
ID1
TEST SIGNAL HOLDING
TEST1
20₁
FL1
LATCH
LCLK₁
24₁
SELECTOR
FS1
20₂
FL2
24₂
ID2
TEST2
LCLK₂
FS2
22₂
20k-1
FL(k-1)
24k-1
22k-1
ID(k-1)
TEST(k-1)
LCLKk-1
FS(k-1)
20k
FLk
24k
IDk
TESTk
LCLKk
FSk
22k
26
FUSE
LCLK
SELECT SIGNAL GENERATION
SEL
312
RES
DON
RISING EDGE DETECTION
310
314
FR
RISING EDGE DETECTION
a
316
FALLING EDGE DETECTION
b
LCLK

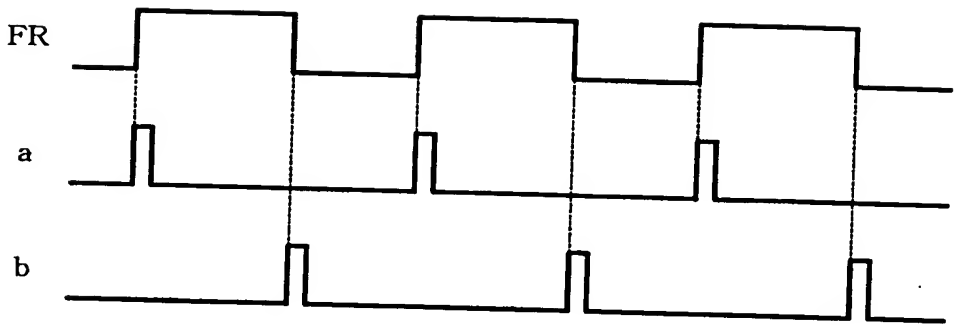



FIG. 10